

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
REVISED

PERMITTEE

Fox Metro Water Reclamation District
Attn: Thomas F. Muth
682 Route 31
Oswego, Illinois 60543-9417

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| <u>Application No.:</u> 96080085 | <u>I.D. No.:</u> 093015AAE |
| <u>Applicant's Designation:</u> FOXFESOP | <u>Date Received:</u> May 23, 2005 |
| <u>Subject:</u> Municipal Wastewater Treatment Plant | |
| <u>Date Issued:</u> February 16, 2006 | <u>Expiration Date:</u> March 12, 2008 |
| <u>Location:</u> 682 Route 31, Oswego | |

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

A Municipal Wastewater Treatment System with Digester Gas Treated by
Generators or Flares
Two Natural Gas or Digester Gas Fired Generators
Two Digester Gas Flares
57 Heaters
12 Boilers

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons per year of NO_x and 100 tons per year of CO). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. VOM emissions from the wastewater treatment system shall not exceed 7.4 tons/year. This limit is based on a throughput near the maximum capacity of the facility of 42 million gallons of influent wastewater and 44 million gallons of influent stormwater per day, emissions from Water 9 Modeling Program and information in the application.
- b. The flares shall be in operation at all times with a flame present whenever there is flow to the flares.

- c. This permit is issued based on the potential to emit (PTE) for hazardous air pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP or 25 tons/year of any combination of such HAPs, or such less quantity as USEPA may establish by rule which would require the Permittee to obtain a Clean Air Act Permit Program (CAAPP) permit from the Illinois EPA.

- 3a. Emissions and operation of the 2 flares shall not exceed the following limits:

| E M I S S I O N S | | | | | |
|-----------------------------------|------------|------------------------------|-----------|-----------------|-----------|
| Digester Gas Burned (mmscf/Mo) | (mmscf/Yr) | NO _x (Tons/Mo) | (Tons/Yr) | CO (Tons/Mo) | (Tons/Yr) |
| 34 | 100 | 0.2 | 2.0 | 3.8 | 37.5 |

These limits are based on standard AP-42 emission factors from Table 2.4-5 for Landfill Gas. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Emissions and operation of the 2 generators shall not exceed the following limits:

| Natural and/or Digester Gas Fired (mmscf/Mo) | (mmscf/Yr) | Emission Factor (gm/bhp-hr) | Conversions (hp-hr/mmBtu X mmBtu/mmscf) | | | Emissions (T/Mo) (T/Yr) | | |
|--|------------|-----------------------------------|--|---|-----|----------------------------|------|-----------------|
| 2.0 | 5.6 | 8.5 | 150 | X | 900 | 2.5 | 7.1 | NO _x |
| | | 31.2 | 150 | X | 900 | 9.5 | 26.7 | CO |
| | | 2.2 | 150 | X | 900 | 0.7 | 1.9 | VOM |

These limits are based on manufacturer's emission factors at lowest manifold carburetor setting and conversions from manufacturer and AP-42, Table 3.4-1. Compliance with annual limits shall be determined from a running total of 12 months of data.

- c. The Permittee shall maintain records of the vendor recommendations at the facility and be available for inspection and copying by the Illinois EPA.
- d. The Permittee shall keep a maintenance and repair log for the engine-generators, listing significant activities performed with date.
4. Emissions and operation of all 57 heaters and 12 boilers shall not exceed the following:

| Natural Gas Usage (mmscf/Mo) | (mmscf/Yr) | NO _x (Tons/Mo) | (Tons/Yr) | CO (Tons/Mo) | (Tons/Yr) |
|---------------------------------|------------|------------------------------|-----------|-----------------|-----------|
| 30 | 300 | 1.5 | 15 | 1.3 | 12.6 |

| PM | | VOM | |
|------------------|------------------|------------------|------------------|
| <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> | <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> |
| 0.1 | 1.2 | 0.08 | 0.83 |

These limits are based on standard AP-42 emission factors. Compliance shall be determined from a running total of the previous 12 months data.

5. Natural gas shall be the only fuel fired in the heaters and boilers, and digester and natural gas shall be the only fuels fired in the generators and flares.
- 6a. No person shall cause or allow the emissions of carbon monoxide into the atmosphere from each individual fuel combustion emission source to exceed 200 ppm corrected to 50% excess air in accordance with 35 Ill. Adm. Code 216.121.
- b. This permit is issued based on the emissions of volatile organic material (VOM) from the wastewater treatment system not exceeding 8 lb/hour, pursuant to 35 Ill. Adm. Code 215.301.
7. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
8. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on all the above-referenced equipment such that the equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
9. The Permittee shall maintain an operating log for the equipment, which at a minimum includes any adjustments of the equipment's operating parameters, and the results of inspections, maintenance, and repair activities.
- 10a. The Permittee shall maintain records of the following items:
 - i. Natural gas used for boilers, heaters and generators (mmscf/month and mmscf/year);
 - ii. Digester gas burned in generators (mmscf/month and mmscf/year);
 - iii. Digester gas burned in flares and generators (mmscf/month and mmscf/year); and
 - iv. NO_x, CO, PM, and VOM emission calculations (tons/month and tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from

the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

11. If there is an exceedance of or deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

12. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

Please note that digester gas usage has been increased, diesel fuel has been removed and emissions for flares and generators have changed as addressed in Construction Permit No. 99010037.

If you have any questions on this permit, please contact Randy Solomon at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:RBS:psj

cc: IEPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the municipal wastewater treatment plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is handling 42 million gallons of wastewater influent and 44 million gallons of stormwater influent per day. The resulting maximum emissions are below the levels (e.g., 100 tons per year of NO_x and 100 tons per year of CO) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

| <u>Equipment</u> | E M I S S I O N S | | | | | |
|----------------------|---------------------------|--------------|---------------|------------------|--------------------|-----|
| | HAPs | | | | | PM |
| | NO _x (T/Yr) | CO (T/Yr) | VOM (T/Yr) | Single (T/Yr) | Combined (T/Yr) | |
| Flares | 2.0 | 37.5 | | | | |
| Generators | 7.1 | 26.7 | 1.9 | | | |
| Boilers and Heaters | 15.0 | 12.6 | 0.83 | | | 1.2 |
| Wastewater Treatment | | | 7.4 | | | |
| Totals: | 24.1 | 76.8 | 10.1 | < 10 | < 25 | 1.2 |

RBS:96080085:psj